ENGINEERING NEWS-RECORD

San Antonio makes 2-mile park at its river front — *See page 2*

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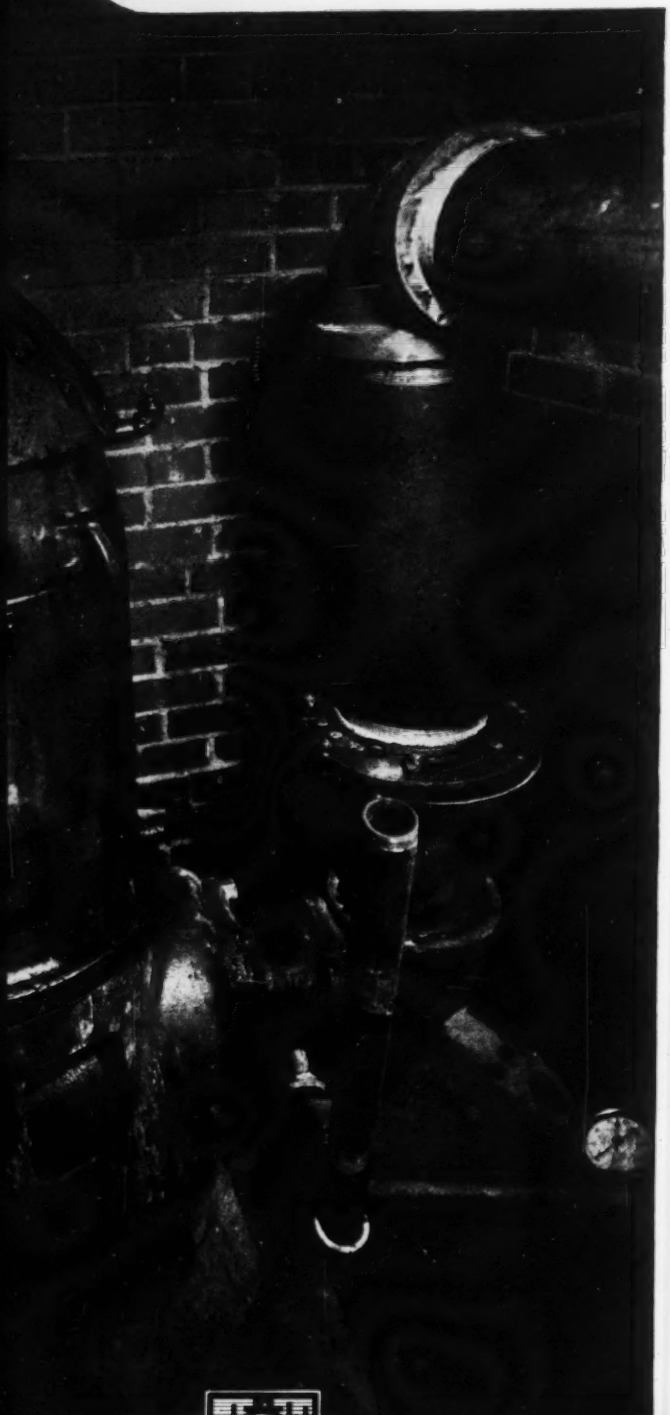
Still on the Job



. . . AFTER 4½ YEARS' SERVICE IN HIGHLY CORROSIVE WATER

● Before the advent of turbine pumps, an Evansville, Indiana, plant obtained its cooling water from deep wells, using plunger pumps. But Evansville well water is very corrosive on ferrous materials and, due to the trouble it caused, the deep wells were abandoned for a spray pond. In the Fall of 1935, the deep wells were again placed in commission, the engineer in charge using turbine pumps with Republic Toncan* Iron for column, shaft, casing, tubing and the discharge line.

This Spring, when two of the pumps were inspected, no repairs were required and the pipe was in such excellent condition that it was put back into the wells.

Toncan Iron is made of an alloy of highly refined open-hearth iron, copper and molybdenum. Engineers who have used it where corrosion is a problem know that it possesses the highest rust-resistance of the ferrous metals in its price class. It is a money-saver for municipalities and industrial plants, and has established enviable records for service in water mains, filtration plants, swimming pools, sewage disposal plants, boiler rooms and plant service and processing lines.

Ask for a copy of Booklet No. 333 for more complete data. Write Republic Steel Corporation, General Offices, Cleveland, Ohio.

*Reg. U. S. Pat. Off.

REPUBLIC STEEL
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BERGER MANUFACTURING DIVISION
NILES STEEL PRODUCTS DIVISION
STEEL AND TUBES DIVISION
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TRUSCON STEEL COMPANY

TONCAN IRON PIPE

Made of an alloy of refined open hearth iron, copper and molybdenum
—that grows old slowly

The Week In Engineering and Construction

ENGINEERING NEWS-RECORD • OCTOBER 17, 1940

Shipyard construction begins for two-ocean navy

Biggest construction week ever recorded—$238,793,000—results from contract awards of $96,961,000 for shipyard and ordnance facilities

Out of the $200,000,000 defense plant money available to it, the Navy last week awarded contracts totaling $96,961,000 for the construction of shipyard and ordnance facilities, necessary for the projected two-ocean navy. For the most part the facilities will be installed in private yards and steel mills and are to be operated by private firms, although title will remain with the government.

Largely as a result of these Navy awards, but coupled with the highest weekly volume of private awards since June 24, 1937, the week's contracts total $238,793,000, highest ever reported by *ENR*. The total tops last week's by 182 per cent and eclipses by 31 per cent the previous high established March 30, 1930.

Included in the Navy awards were nine contracts for shipyards and five for ordnance facilities, most of which are given in the Jobs of the Week, page 12.

Construction of shipbuilding and ship repair facilities now assume first priority in the Navy's public works program. According to a reliable source of information in Washington, priorities of the varied projects of the Navy line up about as follows:

(1) Shipbuilding and ship repair facilities (shops, drydocks, marine railways, shipbuilding ways and docks, laboratories, waterfront structures, and naval model basin)

(2) Fleet facilities (moorings, berthing, anchorages, channels, harbors, fleet training bases, destroyer bases and submarine bases)

(3) Aeronautic facilities (air stations, wind tunnels, naval aircraft factory, airbases, naval reserve aviation bases)

(4) Storage facilities (supply storehouses, supply depots, clothing factories, fuel storage, fleet supply facilities, strategic and reserve material storehouses, and fleet supply piers)

(5) Marine Corps activities (marine barracks and quarters, marine corps bases, rifle ranges, supply depot and marine training facilities)

(6) Ordnance activities (ammunition depots, torpedo stations, mine depots, ordnance plants, gun factories, magazines, powder factories, and proving grounds)

(7) Structures for naval personnel (training stations, naval academy, quarters for officers and enlisted men, receiving stations, recreation facilities, chapels and administration buildings)

(8) Hospital facilities (includes dispensaries and medical storage facilities)

(9) Radio activities (receiving and transmitting stations, direction-finder stations)

(10) Naval Research Laboratory (buildings, structures, laboratories and other research facilities).

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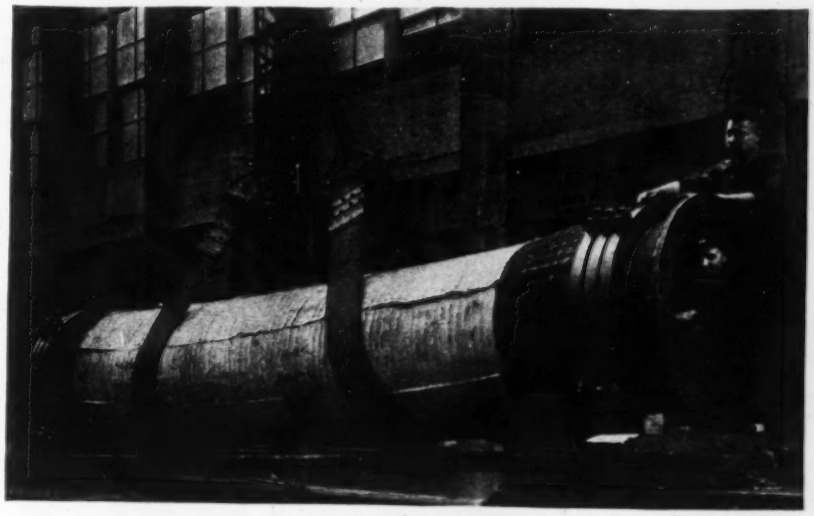
F. H. Fowler nominated for A. S. C. E. president

Frederick H. Fowler, San Francisco consulting engineer, was nominated for president of the American Society of Civil Engineers at the fall meeting of the society in Cincinnati on Oct. 15. This selection as official nominee is tantamount to election.



Harold A. Willoughby

What a dredge operator calls hose

Believed to be the largest ever built, a 38-in. diameter hose has been completed by the Boston Woven Hose & Rubber Co., Cambridge, Mass., for use on a hydraulic dredge for channel clearing operations on the Mississippi River. The hose, 20 ft. 10 in. long, weighs 9,800 lb. In its manufacture 3,500 lb. of rubber, 800 lb. of cotton, and 2,700 lb. of wire were required. The hose will serve as a flexible joint between the dredge ladder and the suction line and is designed for a maximum bend of 42 degrees. Thickness of walls is about 3½ in. Fabrication took place on a boiler plate mandrel designed by the company. Each end flange has thirty-two 1¼-in. bolt holes, and the steel nipple and flange are cast integrally, being about 20 in. overall at each end.

In the view shown wide rubber slings 12 in. wide are being used to lower the hose from the fourth floor of the factory to a truck for shipment via gondola car to Memphis, Tenn.

Wage-Hour Administration redefines "professional" work under the act

New ruling clarifies controversial point as to what engineering employees are exempt from payment of overtime because their work is professional

The term "professional capacity" as contained in the Wage-Hour Act has been redefined in a ruling made public Oct. 12 by Col. Philip B. Fleming, administrator of the Wage-Hour Division of the Department of Labor, following hearings begun some months ago. The new ruling will go into effect Oct. 24 when the change to a 40-hr. week under the act becomes effective. It will apply to the employees of all engineering firms whose work can be classified as interstate.

The major change made by the new ruling is clarification of what work is covered by the exemption for men engaged in a professional capacity under the act. An earlier interpretation held that "professional" included only men whose work required discretion "both as to the manner and time of performance, as opposed to work requiring active direction and supervision." This has been eliminated because many professional men put in part of their time doing work of the same character as that done by non-exempt employees. The section of the new ruling relating to "professional" reads as follows:

The term "employee employed in a bona fide * * * professional * * * capacity" in section 13 (a) (1) of the Act shall mean any employee who is

(A) engaged in work

(1) predominantly intellectual and varied in character as opposed to routine mental, manual, mechanical, or physical work, and

(2) requiring the consistent exercise of discretion and judgment in its performance, and

(3) of such a character that the output produced or the result accomplished cannot be standardized in relation to a given period of time, and

(4) whose hours of work of the same nature as that performed by nonexempt employees do not exceed twenty per cent of the hours worked in the workweek by the nonexempt employees; provided that where such non-professional work is an essential part of and necessarily incident to work of a professional nature, such essential and incidental work shall not be counted as non-exempt work; and

(5) (a) requiring knowledge of an advanced type in a field of science or learning customarily acquired by a prolonged course of specialized intellectual instruction and study, as distinguished from a general academic education and from an apprenticeship, and from training in the performance of routine mental, manual, or physical processes; or

(b) predominantly original and creative in character in a recognized field of artistic endeavor as opposed to work which can be produced by a person endowed with general manual or intellectual ability and training, and the result of which depends primarily on the invention, imagination or talent of the employee, and

(B) who is compensated for his services on a salary or fee basis at a rate of not less than $200 per month (exclusive of board, lodging, or other facilities): provided that this subsection (B) shall not apply in the case of an employee who is the holder of a valid license or certificate permitting the practice of law or medicine or any of their branches and who is actually engaged in the practice thereof.

Since the ruling was issued Administrator Fleming has cautioned against assuming that anyone paid more than $200 a month is exempt from the act. Fleming stated that the $200-a-month clause is "accompanied by other clauses, the terms of which must be met. It is not enough to find that one of these clauses fits the employee in question." From this it would appear that an engineer paid more than $200 a month and who put in more than 20 per cent of his time at work similar to that done by non-exempt employees still would have to be paid overtime for work in excess of 40 hours.

San Antonio makes two-mile park of its river valley

This month the city of San Antonio is completing a WPA project that has transformed two miles of the inaccessible slow-moving San Antonio River in the heart of the business district into a semi-tropical river park complete with sidewalks, pedestrian bridges, boat landings, and stairways leading to street level. About 16 acres have been added to the city's park area without purchasing any property.

Normally the river's flow is about 12 cfs, flow increasing to 200 cfs in the rainy season. At the upstream end of the project, a small check dam was constructed to keep the average depth along the improved area at about 4 ft. Also constructed was a channel about four blocks long to act as a cut-off for a ¾-mile horseshoe bend in the river. To control flow along the old channel, which was made part of the park, the dam shown at the upper left was constructed; to control the water level in the segregated area a reinforced concrete weir 10 ft. high was built at the downstream end of the bend. The weir was equipped with a 4-ft. gate to permit draining the bend sector to remove silt and weeds.

How the river was improved along the old channel and downstream from the control dam is shown in the view at the right. On the front cover of this issue is shown a cantilever stairway leading from the park to street level.

Tom McNamara has represented the city engineer's office on the work, R. W. Turk has acted as WPA superintendent and W. B. Thompson is WPA director of operations. Walter H. Lilly has been acting as consulting engineer since the death of E. P. Arneson.

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WASHINGTON HIGHLIGHTS

THE U. S. SUPREME COURT agreed this week to consider an appeal by the state of Oklahoma from an injunction forbidding the state to interfere with the Grand River Dam project. The dam is being built with PWA aid by the Grand River Dam Authority. The controversy arose when the state claimed that the authority must make additional contributions to replacement of roads in the reservoir area. Governor Phillips called out the state militia to prevent filling of the reservoir. The authority obtained from a three-judge federal court an injunction forbidding the governor to interfere with the project. The militia was recalled and the reservoir filled. The state asked the Supreme Court to overrule the injunction, and the court has agreed to consider.

NEED OF THE Aluminum Co. for additional power for its reducing plants in the Tennessee Valley prompted it to apply this week, through its subsidiary Nantahala Power and Light, for permission from the Federal Power Commission to construct a dam on the Little Tennessee River in North Carolina. Permission to build this project was sought about two years ago, but it was turned down then on the grounds that it would interfere with TVA's integrated plan for the valley. Both the dimension and the design of the project are contingent on the financing adopted. If the 5-year amortization plan is permitted to apply it will be a 450-ft. concrete dam storing a million acre-ft; if not a 350-ft. earth and rockfill type fill will probably be built.

• • •

Long power line from Grand Coulee approved

Last week Paul J. Raver, Bonneville-Grand Coulee power administrator, approved authorization of the immediate construction of a 230,000-volt 183-mi. transmission line across the Cascade Mountains in the state of Washington between Grand Coulee Dam and Puget Sound. Raver's approval followed President Roosevelt's signing of the deficiency appropriation bill allotting $3,850,000 for the work.

The Work Projects Administration has been asked to allot $1,895,000 to aid in clearing a right-of-way for the line, which would terminate near Tacoma. The line would be the third "leg" of a triangular interconnection of Bonneville and Grand Coulee Dams with the Tacoma and Seattle municipal systems.

Colorado River Aqueduct builders honored

On Sept. 26, the Southern California Chapter of the Associated General Contractors of America paid tribute to the efficiency and integrity of the builders of the virtually complete $200,000,000 Colorado River Aqueduct by honoring directors, officers and staff engineers of the Metropolitan Water District of Southern California at a dinner in Los Angeles. Robert V. Edwards, president of the Southern California Chapter, acted as spokesman for the chapter and the 213 contracting firms that aided in the building of the famous aqueduct.

Among those present were the men shown above. They are, standing left to right: Franklin Thomas, director of the Metropolitan Water District; J. Carson Agnew, Winston Bros. Co., Los Angeles; W. P. Whitsett, director of the district; Julian Hinds, assistant chief engineer of the district; Victor Rossetti, district director; Robert V. Edwards; J. M. Gaylord, chief electrical engineer for the district; and seated left to right, F. J. Connolly, manager of the A.G.C. chapter, and F. E. Weymouth, general manager and chief engineer of the district.

Rivers and harbors bill passes permitting $37,085,000 defense work

Congress also increases Hartford flood-control money and passes bill which may aid Cincinnati in starting its flood-control project

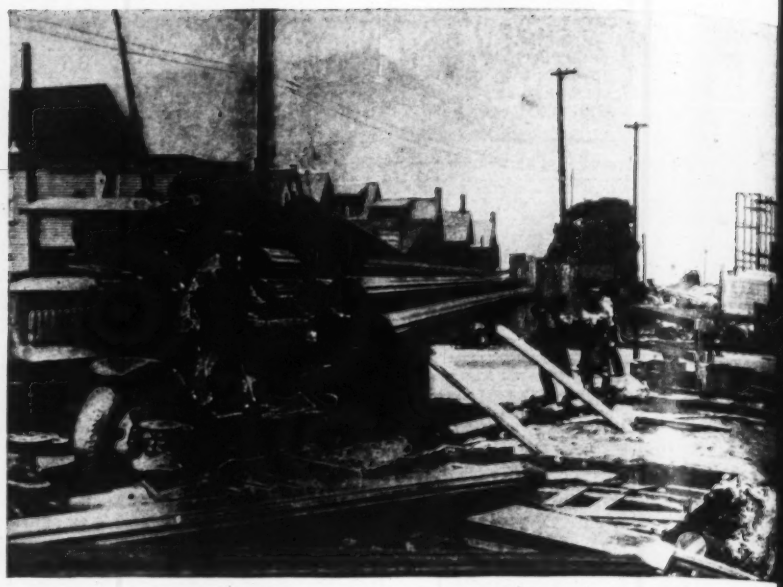
Congress last week sent to the White House an authorization bill permitting the prosecution of $37,085,000 worth of river and harbor projects considered valuable to the national defense. The bill was introduced last Spring as a substitute for a large regular river and harbor authorization opposed by the President.

As finally passed, six projects which had been dropped, reportedly at the insistence of the President, were restored, the Los Angeles and Long Beach Harbor project was enlarged at Navy request by about $10,000,000, and two projects—the Sabine Neches waterway at Orange, Tex., and the Norfolk, Va., harbor—were added.

Also passed last week was a measure authorizing a $1,640,000 increase in the already authorized local flood protection project at Hartford, Conn. The additional work on the project will protect communications between the city and the Pratt & Whitney aircraft engine plant in East Hartford.

A plan, already practiced as to river and harbor work, by which communities may get local flood protection work started, is provided for in a bill on which Congressional action was completed last week. Idea is that when a project has been authorized and the local contribution has been raised but the army engineers have not yet allocated any money, the locality may loan the amount of its contribution to the army engineers, who would use it to start the project. Loan would bear no interest and would be repaid by applying it against the required local share as the project is completed. The bill is aimed particularly at a situation in Cincinnati, where a bond issue authorization, voted by the electorate, is about to run out.

An eighteen-foot pile every three minutes



1. Piles come to job by truck where they are unloaded the easiest way. Transfer from rail to truc by hand as two men can easily handle the 18-foot length

FOR A GRADE separation of the Long Island R. R. across Rockaway, an ocean front community in Queens, New York City, cast-in-place piling shells were put down at record pace. The piles —18 ft. long, 8 in. closed tip, 15.2 in. butt—of 11-gage fluted metal were jetted to near final position, then driven the following day to the required penetration.

About 5,600 piles were used in 241 bents along a 1½-mile length. Each bent normally has two footings with 6 to 12 piles each although several specials at each street or other obstruction are much larger. Piles are generally spaced 2 ft. 8 in. apart in rows 3 ft. center to center.

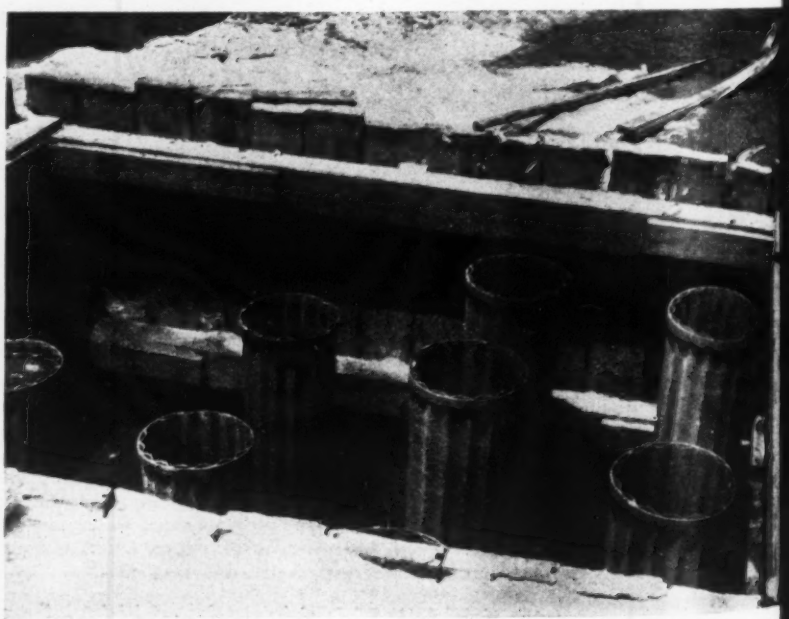
Cofferdams were required at all footing locations as the work is below sea level in a fine sand. Well points dried the area but cofferdams of two wales and 3 x 10 T. & G. sheeting 12 ft. long were set in oversize excavations made by truck crane and clamshell bucket. Pneumatic hammers drove the sheeting, assisted by jetting.

The feature of the job was the progressively deeper jetting of each row of piles in a cluster, in the order in which they were to be driven next day. This compensated for increasing compaction and driving resistance of the soil. It was found by experiment that for the average footing, an eight-pile cluster (3–2–3 piles in the three rows with stagger spacing), the three piles to be driven first should be left 5.5 ft. above final elevation, the center two 4.5 ft. and the final row 3 ft. Specifications required driving to a resistance of 4 blows per inch with the No. 1 Vulcan hammer used. The stepped jetting elevation made the final driving resistance of every pile about the same.

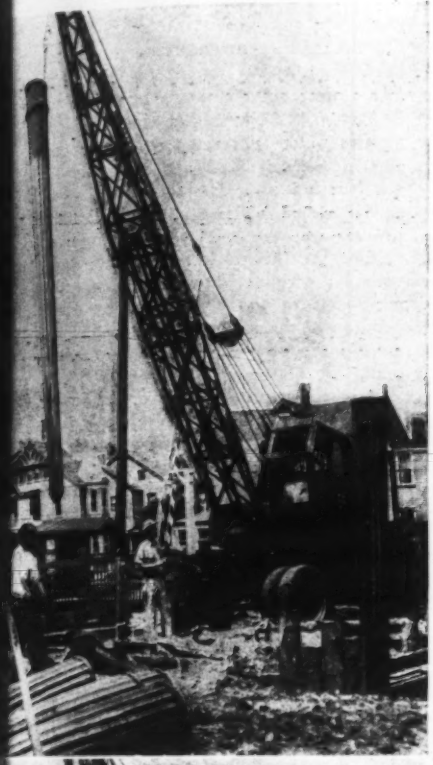
Final operation was removing surface water from the piles, since tops are generally below tide level, and then filling with truck-mixed 6-bag concrete.

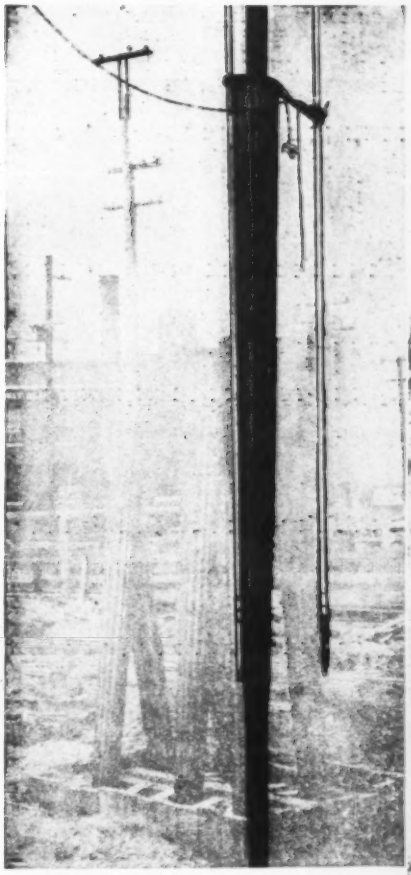
The work is being done for the New York City Transit Commission and the Long Island R. R. Tully & DiNapoli, Inc., of Long Island City, N. Y., have a $2,340,000 contract for the entire grade separation project, on which F. P. King is superintendent and Fred Karcher field engineer and assistant superintendent. H. B. Gates is chief engineer for Tully & DiNapoli.

5. Ten-pile cluster in rows 2-3-3-2. Driving will start with high piles at right continuing to as compaction from driving increases resistance for successive piles jetted to lower level



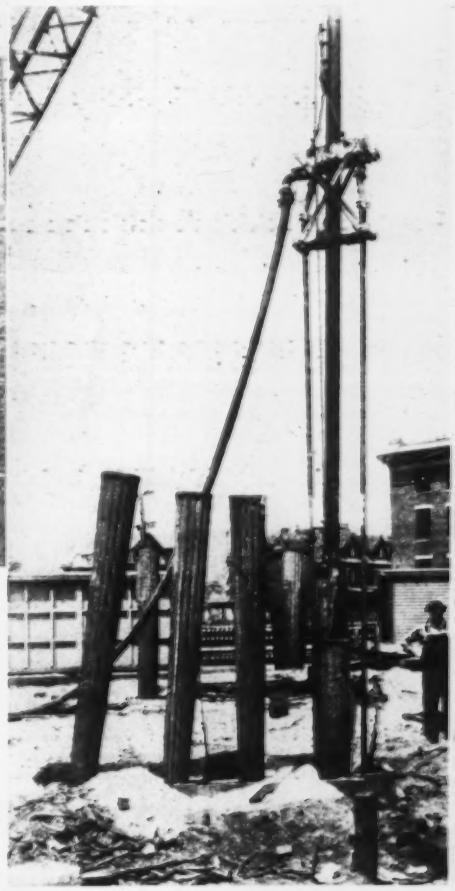
ile shell is set in position by truck crane and orted by light framework on the top wale

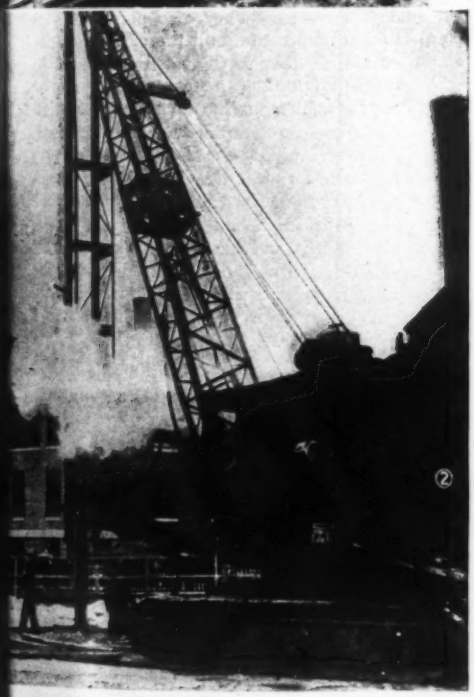




3. Jetting pipes and weighted vertical guide are shown above. Guide consists of a 6-in. extra-heavy pipe 60 ft. long inside of which is plug welded a 5-in. extra-heavy pipe. To increase the weight to about two tons, 16 ft. of the guide's lower end is enclosed by a pile shell filled with concrete and punchings

4. When jetting, 60-ft. long guide slides through special frame at tip of crane boom. Through use of a second line from the crane, the jetting system is raised and lowered independently of guide. Water pressure at rounded nozzle of jet is probably 90 lb. per sq.in.





Steam crawler crane carries leads attached to boom tip supports heavy single-acting hammer

7. Shells ready for concrete. They are watertight but water has entered from top so small pump provides suction lift of 18 ft. to dewater them

Daily News photo

It couldn't be done, but they did it

Although contractors of the New York area last Feb. 26 did not submit bids for a 3,735,750-cu. ft. building for the Borough of Queens because the Oct. 19 completion date was said to give too little construction time (ENR March 7, 1940, p. 351), shown above is the structure after 110 working days on contracts awarded at a following opening. Furthermore some of the building was ready for occupancy as early as Oct. 7, and this week—a little more than seven months after construction was begun on five major contracts awarded after the second opening—general moving in is underway.

The $1,990,000 project, to house all offices of the Queens Borough and most of the New York City offices in that borough, contains about 282,000 sq. ft. of floor space and is located in Kew Gardens. A departure from general building practice has been to take dimensions for interior metal work from plans rather than from the finished work, an expedient which required careful work.

The principal work was done by the following New York firms under individual contracts: O'Driscol & Grove, Inc., general building construction; Harris Structural Steel Co., steel frame; P. T. Frye & Co., Inc., plumbing; J. H. Bodinger Co., Inc., heating and ventilating; and Chas. F. Zweifel & Co., electrical work. Irving V. A. Huie, is commissioner of public works for New York City. E. J. McGrew, Jr., deputy commissioner for buildings has been in direct charge of the work with Carl Peterson resident engineer. For O'Driscol & Grove, Inc., J. F. Garland is superintendent.

Niagara power increased under new agreement

The power output of Canadian plants at Niagara Falls is to be increased by about 70,000 hp. under a temporary agreement just concluded between the Canadian and United States governments. According to the announcement made by the two governments, the agreement has been entered into at this time to provide additional power for war industries pending agreement on a new treaty covering development of the resources of the international section of the St. Lawrence River basin.

Under the temporary agreement, Ontario will be permitted to divert an additional 5,000 cfs for power purposes at Niagara, the water so diverted to be supplied by the diversion of an equal amount from the Hudson Bay drainage basin into the St. Lawrence basin.

The official announcement says that engineering studies looking toward the development of the international rapids section are to be started immediately.

Exits found inadequate for Penn Turnpike

Within one week after its opening Oct. 1 officials of the Pennsylvania Turnpike have decided that the exits on the superhighway are inadequate. Plans are now being prepared to enlarge the two-lane roads leading onto and from the Turnpike to three-lane roadways. On Oct. 6, the first Sunday that the Turnpike was open to the public, an estimated total of 27,000 vehicles used the highway, according to chief engineer Samuel W. Marshall. At peak hours exits were jammed and sometimes traffic was at a standstill for miles.

At Harrisburg, which is 11 miles east of the eastern terminal of the highway, a traffic problem has also been created at the city's two river toll bridges and along Front St. A plan has been proposed that the state of Pennsylvania purchase both bridges, the Market St. and the Walnut St. spans, lift the five-cent toll on each structure, and restrict traffic on each bridge to one-way.

Engineers' settle case on Wheeling filter plant

Acceptance by the city council of Wheeling, W. Va., of a $50,000 settlement in a suit against the J. N. Chester Engineers, Pittsburgh, brought to reimburse the city for money paid in extras to a contractor, concludes litigation that began in 1929. At that time the John F. Casey Co. entered suit against the city for extras under a contract for the construction of a filtration plant in accordance with plans and specifications prepared by the J. N. Chester Engineers calling for the work to be done under their supervision. The claim for extras arose out of the change in the actual location of the main building by the resident engineer after the commencement of the work.

The suit resulted in a verdict against the city for $75,000. On appeal, judgment on the verdict was sustained, and in 1938 the city paid the John F. Casey Co. the full amount of the judgment with interest, or a total sum of $106,288.80. The city thereupon filed suit against the J. N. Chester Engineers on their alleged covenant to indemnify it against such loss. It is that suit that has been settled and compromised by the parties by the payment of $50,000.

The J. N. Chester Engineers state that the settlement was effected purely for the purpose of avoiding further litigation and without any admission of liability on their part. They also point out that their organization and the officials of the city of Wheeling "have always been of the opinion that the contractor suffered no damage from the change of location and that the verdict was unwarranted. Notwithstanding the litigation, the city has many times demonstrated its confidence in the J. N. Chester Engineers, has employed them on other work in the community, and has always been entirely satisfied with the work done on the filtration plant, which has functioned admirably since it was placed in operation in January, 1924."

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Philadelphia bond issue held unconstitutional

The $42,000,000 bond issue to finance improvements to the sewer system of the city of Philadelphia was declared unconstitutional by the Pennsylvania State Supreme Court Oct. 7. The court held that the act, as drawn, was a thinly veiled attempt to increase taxes beyond constitutional limitations. This ruling reverses a decision in the Philadelphia Common Pleas Court handed down in September (*ENR*, Sept. 5, 1940, p. 315). The issue would provide for a rental of 40 cents for each $100 of assessed valuation to amortize costs of the work.

Reigeluth again heads construction safety group

The Construction Section of the National Safety Council, meeting with the th National Safety Congress in Chigo Oct. 7-11, elected R. J. Reigeluth, st general chairman, to the same posin for the coming year. He is vice-esident of C. W. Blakeslee & Sons, . New Haven, Conn., and is the thor of a book on construction safety. A. Hazard, engineer of erection, thlehem Steel Co., Bethlehem, Pa., s reelected vice-chairman, heavy conuction division. S. E. Anderson, of the rrison Const. Co., Pittsburgh, Pa., ain heads the highway division. Vice-airman for the building division will F. L. Hurlbutt, Patent Scaffold Co., icago. The U. S. Engineers will be presented by Maj. W. E. Lorance, fety officer, U. S. Engineers, Washing-, D. C. W. A. Snow, Associated Gen-l Contractors of America, Washington, C. will again serve as secretary of construction section.

Other members of the executive board the section, who all serve without mpensation and pay their own expenses connection with their duties on the ard include: E. N. Goldstine, consult-safety engineer, San Francisco, edi-of the "News Letter"; S. E. Edge, w Haven Gas Light Co., New Haven, nn., membership chairman; J. A. Burk, Travelers Insurance Co., Hartford, nn., program chairman; S. M. Lauder-le, C. C. C., Washington, D. C., visual ucation committee; Chas. H. Black, Stone & Webster Corp., Boston, engineering committee; G. O. Griffen, Dravo Corp., Pittsburgh, Pa., and F. J. Crandall, Liberty Mutual Insurance Co., Boston. The first meeting of the new board will be held late this fall.

Five papers were presented at the Chicago meeting, which was attended by 200 delegates. Membership in the construction section now totals 383.

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Wilmington, N. C. has water shortage

Despite recent rains on the Cape Fear watershed, extremely high seasonal tides have left the city of Wilmington, N. C. (population 34,000) faced with the worst water shortage in history. The tides have backed salt water into Toomer's Creek, the city's water supply, and rendered the water too salty for use.

To meet the present emergency, the city water department has made arrangements to use about 100 private and 10 or 12 industrial wells. The North Carolina State Board of Health has sent R. Frank Hill, Jr., sanitary engineer, to Wilmington with nine portable chlorinating tanks to treat the water used during the emergency.

Last week the commissioners of the city began study of a proposal to spend $1,000 on a survey of a drilled well supply. This supply was estimated to cost between $18,000 and $25,000 per million gallons per day. McKean Maffitt is superintendent of the city's water and sewage department.

Hill top reservoir for Meridian water supply

o replace pumping directly into the city ins without the benefit of elevated storage any point, the city of Meridian, Miss., is structing a 5,500,000-gallon reservoir on a a half-mile south of the city. The rein-ced concrete structure will have a concrete f over which will be spread 12. in of earth. reservoir will be of sufficient capacity to ply normal requirements for about 36 hours with all pumps shut down, and will be connected to the city mains by a 24-in. line.

The estimated cost of the work, for which Burns & McDonnell, Kansas City, Mo., are consultants, is about $114,000, with WPA supplying $75,000. John T. Pinkston, superintendent of the water department of the city, is representing the city on the work, which is being done by WPA labor.

Aluminum firm plans big building program

More than $150,000,000 has been allocated by the Aluminum Co. of America to finance construction for defense work, according to the company's president, Roy A. Hunt. The company will finance and do most of the work with its own forces, because of the technical details involved.

Expansion for national defense includes construction of hydro-electric projects at Glenville and Nantahala, N. C., together with smelting plants to use power from those projects.: Fabricating plants are under construction or in the planning stage for Alcoa, Tenn.; Lafayette, Ind.; Los Angeles, Calif.; New Kensington, Pa.; Detroit, Mich.; Cleveland, Ohio; Edgewater, N. J., and Massena, N. Y. Three new units are also being added to the Vancouver, Wash., plant.

The work is expected to increase the company's production of aluminum by 90,000,000 lb. yearly.

• • •

Builder honored for fast job

Robert M. Catts of the R.M.C. Construction Co., New York City, builders of the Rockcliffe Apartments, Montclair, N. J., was honored by the Brick Manufacturers Association of New York and a group of architects, engineers and builders at a luncheon at the Biltmore Hotel, New York, on Oct. 10. The building is the first major structure in the United States with walls of cavity type (*ENR*, Sept. 12, 1940, p. 332). Because of the heat insulation and protection against water percolation afforded by the hollow metal-tied form of the wall, no furring or waterproofing of the inside face of the wall was required, and the plaster was applied directly to the brick.

Remarkably fast construction was accomplished by the builders. Rockcliffe Apartments, a 7-story fireproof structure 400 ft. long and with about 1,500 ft. perimeter, contains 103 apartments. It was built in 63 working days.

• • •

Louisville to vote on flood control work

WHEN voters of the city of Louisville, Ky., go to the polls Nov. 5 they will vote on a proposed $2,500,000 bond issue for construction of a flood wall along the Ohio River. If the work which has been under discussion since the disastrous flood of 1937, is approved, it is estimated that the federal government will spend about $7,000,000 with the city putting up $1,500,000 for right-of-ways and $1,500,000 for sewer charges.

MEN AT WORK

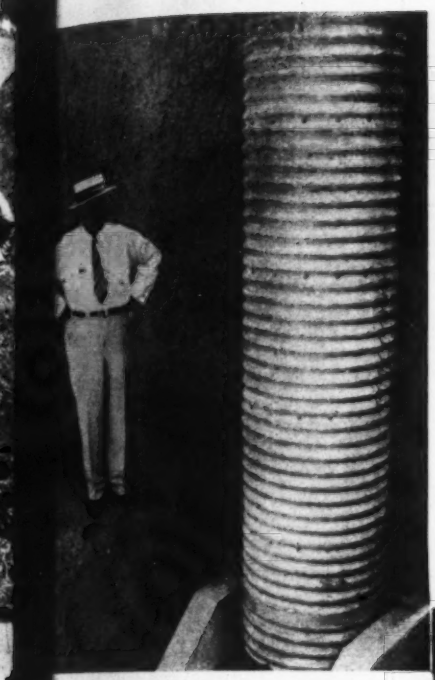
Everyone who knows genial DON BLANKS, vice president of the Frazier-Davis Construction Co., St. Louis, will recognize him in the view above with his hard hat, slicker and boots, for he spends most of his working hours under ground. Right now he is in charge of the Frazier-Davis section of the Delaware Aqueduct at Shafts 9 and 10. Observers who have been over the entire aqueduct state that Blanks has one of the best looking and cleanest jobs along the aqueduct route.

Street paving problems are a specialty of CHARLES L. WARTELLE (above), city engineer of Seattle, Wash., who began to work for the city engineering department 33 years ago. Originator of the transverse dummy joint now widely used in concrete pavements, Wartelle recently obtained approval for a gas-tax allocation plan that encourages city property owners to support paving programs since they are relieved of 25 per cent of the costs. A tenfold increase in the amount of city paving work he ascribes to cost reductions of all sorts recently effected. City gravel costs have been cut as low as 60c per cu. yd. and asphalt costs at the municipal plant are now down to $1.32 per ton or $2.64 per cu. yd.

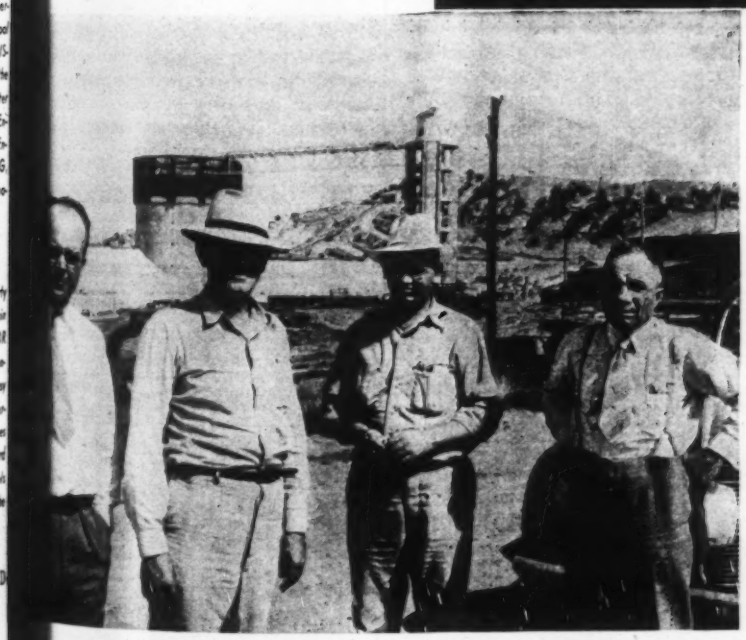
When delivery of water from Contra Costa Canal to the city of Pittsburg, Calif., was begun (ENR, Aug. 29, 1940, p. 260), present for the occasion were left to right: City Manager FRANK CHILTON, Pittsburg; R. L. HECK, superintendent of the municipal water system; O. N. CHRISTIANSON, secretary of the Contra Costa County Water District; and Construction Engineer O. G. BODEN and Engineer RICHARD A. YOUNG, both of the Bureau of Reclamation.

In charge of a seven-man party with headquarters at Mountain View, Wyo., ROSS W. MOOR (left), public land surveyor, General Land Office, is plenty busy these days on a dependent resurvey of township exteriors in Ranges 114 to 117 West between Third and Fifth Standard Parallels North. Moor has been with the federal government since 1929.

The big job of the three engineers above is to build in 20 months TVA's Cherokee Dam on the Holston River 35 miles northeast of Knoxville. They are, left to right: GEORGE K. LEONARD, construction engineer; G. E. MURPHEY, construction superintendent; and LEE G. WARREN, project manager in charge of the entire job. When completed, the dam will be 6,750 ft. long and 175 ft. high above stream bed. Its initial installation of generating equipment will consist of three 30,000-kw. units. The spillway, 424 ft. long, is flanked by non-overflow gravity concrete sections totaling 1,400 ft.



MARTIN, above, veteran district engineer cil Bluffs for the Iowa State Highway De-t, has just completed one of the most ar highway projects in the Middle West. rk involved some deep cuts through the luffs of the Missouri Valley with the cut carved to vertical steps 15 ft. in height Aug. 29, 1940, p. 277). Martin is standing de one of the big vertical drains that are of a small drainage area back of the one of the loess cuts. Martin has been with ghway department as a district engineer ce the department was organized.



Culminating 40 years of service with the Indianapolis Water Co., WILLIAM F. RANKIN (right above) is congratulated by H. S. MORSE (left), company vice president and manager. Rankin received a service award and bonus check at an informal dinner meeting.

These men are building near Ogallala, Nebr. the 25,000,000-cu.yd. hydraulic-fill Kingsley Dam. Left to right they are: GEORGE P. LEONARD, superintendent for the combined firm of Minneapolis Dredging Co. and Martin Wunderlich Co., contractors on the main dam; GEORGE N. CARTER and E. J. MECKE, resident engineer and assistant resident engineer, respectively, for the owners or the Central Nebraska Public Power & Irrigation District; and A. H. READ, contractor from Cheyenne, Wyo., who has the job of building one million concrete blocks for use as riprap on the dam.

MEN AND JOBS

JOHN W. PORTER has been named chief engineer for the Canadian National Railroad for the western region to succeed the late E. M. M. Hill. Porter's home is at Winnipeg, Manitoba.

LIEUT. COL. LEROY F. GRANT, associate professor of engineering at the Royal Military College, Kingston, Ont., has been appointed general staff officer for Canadian Military District No. 3, with headquarters in Kingston.

RUSSELL C. BAKER has opened an army engineers office at Arkabutla, Miss., to direct operations for the construction of the $10,000,000 dam on Coldwater River, which is to provide flood-control protection for northwestern Mississippi farmland. Baker has worked as engineer in charge of engineering and inspection, Sardis project office, Sardis, Miss.

D. A. SMITH began new duties recently as resident engineer in La Grange, Ga., for the Georgia State Highway Department. He replaces HOWELL GOODIN, who resigned to go with the federal government on the Fort Benning project.

PERCY HARRELL, who has been with the Department of Public Works of Canada for 28 years, has been named assistant deputy minister of the department to succeed NAPOLEON DESJARDINS, who has retired after many years with the department. Harrell acted as secretary to three ministers.

COL. EDWARD C. C. CHAMBER, of the Royal Canadian Engineer, has been named director of engineering services in the Department of National Defense at Ottawa. His old duties of assistant director have been taken over by Lieut. Col. G. R. CHEYWYND, also of the Royal Canadian Engineers.

ROLLAND F. LANG, who holds a bachelor's degree from the South Dakota State College, has been appointed instructor in civil engineering at Michigan College of Mining and Technology, Houghton, Mich.

COL. J. D. ARTHUR, JR., army engineer in charge of the Zanesville, Ohio, district to supervise much of the construction for the Muskingum Conservancy District, on October 1 began new duties in Washington, D. C., where he will supervise work of the rivers and harbors board.

R. T. BRICE, instructor in engineering at Emory University, Atlanta, Ga., has been granted a year's leave of absence to join the Artillery Division of the Industrial Service to be stationed at Washington, D. C. Brice was a reserve captain in the Ordnance Department. ROBERT H. ROHRER, former instructor at Emory Junior College, Oxford, Ga., will take over Brice's teaching duties.

ELMER ST. CLAIR MAXWELL, city engineer of Frederick, Md., on October 15 will begin new duties as superintendent of the Maryland state penal farm at Roxbury, where considerable construction work is planned. Maxwell has been city engineer of Frederick for 13 years, and previous to that was assistant harbor engineer of Baltimore for about six years.

RUSSEL K. BEAN, of the maps and surveys division, Tennessee Valley Authority, has resigned to join the U.S.G.S. at Chattanooga. D. H. MCHENRY, member of the TVA project design division, has joined the Bureau of Reclamation. Another TVA change is REIDAR OLAFSEN, also of the project design division, resigning to join the Aluminum Co. of America at Pittsburgh. New duties of C. H. GRAHAM, also a former member of the TVA project design division, are those of engineer with the Puerto Rico Reconstruction Administration.

GUY W. SACKETT, vice-president of the Mason & Hanger Co., and for the past year general manager of the construction of Merriman Dam for the Board of Water Supply, New York City, has been transferred to Radford, Va., to be in charge of the construction of a smokeless powder plant being built for the Hercules Powder Co.

HAMILTON GRAY, who holds a bachelor's, master's and doctor's degrees from Harvard University, has joined the teaching staff at New York University to establish and direct a new laboratory for the study of foundation soils and soil mechanics. From 1934 to 1936 he was assistant in civil engineering at the Harvard engineering college. Since June, 1936, he has been associated with Moran, Proctor, Freeman and Muesser, engineers of New York City.

CLYDE E. WHITE, draftsman in the lands section of the U. S. Engineer's Office at Huntington, W. Va., on Sept. 15 began a leave of absence for active duty as a reserve officer in the U. S. Army.

CLAIR N. SAWYER, who received a doctor of science degree in Sanitary Chemistry in 1938 from the University of Wisconsin, has begun new duties as assistant professor of sanitary engineering at New York University. From 1930 to 1[illegible] Sawyer taught the extension division [illegible] the University of Wisconsin at Milwaukee. Since 1938 he served as post-doctorate fellow in sanitary engineering [illegible] the University of Wisconsin.

JOHN V. SHELFORD, junior engineer [illegible] employed on structural design in the Huntington, W. Va., district office of [illegible] U. S. Engineers, has been transferred [illegible] the Panama Canal work.

JAMES C. GETTY, who has spent nearly 39 years of continuous service with the U. S. Army Engineers in the Philadelphia area, will retire November 30. Getty began entering government service in 1899. He has been employed as surveyman, rodman, cement tester and inspector.

J. L. GRESSITT, chief maintenance-of-way engineer of the Pennsylvania R. R. Western region with offices in Chicago, has begun new duties as assistant chief engineer, maintenance-of-way, of the Pennsylvania lines with offices in Philadelphia. He succeeds Robert Faries, who died Sept. 8. CHARLES G. GROVE, engineer, maintenance-of-way, Indianapolis, has been promoted to take over Gressitt's old duties, and WALTER R. PARVIN, division engineer at Philadelphia, succeeds Grove. Another change within the engineering staff of the Pennsylvania is the appointment of S. R. RUSH, maintenance engineer of the eastern Pennsylvania division, as acting chief engineer of the eastern region. Rush takes over the old duties of H. H. GARRIGUES, who has been granted a leave of absence.

JAMES A. DAVIS, acting Washington state highway director, last week appointed O. R. DINSMORE, assistant state highway director. Dinsmore's post as office engineer will be taken by M. L. MOOK, assistant construction engineer. The latter's post in turn will be taken by A. E. BATES. Davis has been acting director since Sept. 14, when L. V. MURROW, director for the past eight years, was given an indefinite leave of absence to take his duties as lieutenant colonel in the National Guard Air Corps.

WILLIAM J. FOX, chief engineer of the Los Angeles County Regional Planning Commission and director of the Los Angeles County Building Department, has been called to active service in the U. S. Marine Corps, in which he holds a rank of major. He will be stationed at the Long Beach Naval Reserve aviation base where he will act as an instructor. ARTHUR ADAMS, his assistant, has been appointed by the county board of supervisors as acting chief engineer of the Planning Commission, while A. D. GRIFFIN, assistant chief engineer of the building department has been made acting head of that department.

OBITUARY

UNCAN J. KERR, 56, who started as rod-an with the Pennsylvania R. R. to be-me president of the Lehigh Valley . R., died Oct. 8 in Spokane, Wash. err, who resigned as Lehigh Valley resident last January, because of ill ealth, was made president of that line 1937.

HIL DIXON, 76, superintendent of the . Mary's Water Co., St. Mary's, Pa., for years prior to his retirement last May, ed Oct. 6.

ILLIAM DAVIS FREER, 60, since last year resident of the Birmingham, Ala., Water orks Co., died in New York Oct. 11. on after graduation from Ohio State niversity Freer joined the American ater Works & Electric Co.

. A. MCCUNE, 61, research engineer and ecretary of the Magnaflux Corp., New ork, died in Atlantic City, N. J., Oct. 14. cCune, former president of the Ameri-n Welding Society and the Interna-nal Acetylene Association, was a irector of research of the American hain Co., and a director of research r the Welding Engineering and Re-arch Corp.

OBERT SHARP, for the past 26 years perintendent for the Northern Con-ruction Co., Ltd., of British Columbia, ed in Vancouver, B. C., last week.

. W. POPE, 91, for 27 years secretary of e Ontario Hydro-Electric Power Com-ission, from which post he retired in 35, died Oct. 4 in Toronto.

RCIVAL M. INFANTE, former steel de-gner with Wadell & Hardesty, died Oct. in New York. Infante, from 1910 to 12 worked with the Cartagena Ry., ndon, as chief engineer of construction 65 miles of lines between Cartagena d Calamar, Colombia.

ORGE W. BRAMWELL, 89, a civil engi-er who retired in 1910, died Oct. 9 New York. At one time Bramwell was charge of maintenance for the Shenan-ah Valley R.R., and from 1886 to 1910 rved as president and chief engineer the Hydraulic Construction Co., New rk.

UIS R. SHALLENBERGER, construction gineer employed as assistant manager the R. Hardesty Manufacturing Co., nver, died Oct. 8 in Denver.

HN F. COUGHLIN, 44, for fifteen years ivil engineer employed by the Massa-usetts state division of highways, died Chelsea, Mass., on Oct. 7.

HOWARD B. LINCOLN, 51, division engineer at Cleveland for the past two years for the New York Central R.R., died Oct. 8 in that city.

ALVIN A. KLEIN, 57, public works superintendent of Williamsville, N. Y., since 1935, died Oct. 10.

RALPH R. HULL, 61, former commissioner of buildings at Buffalo, N. Y., and former secretary-treasurer of the Houde Engineering Corporation, died Oct. 9 in Buffalo.

HARRY FRAZIER, SR., 79, consulting engineer and retired chief engineer of the Chesapeake & Ohio R.R., died last week in Lewisburg, W. Va.

GEORGE W. ODOM, city commissioner in charge of streets and waterworks at Gulfport, Miss. for nearly 30 years, died Sept. 30.

WILLIAM A. YOUNG, 63, who retired last year as chief engineer of the Westchester County (N.Y.) Sanitary Sewage Commission, died Sept. 30 in New Port Richey, Fla.

CONTRACTS AND CAPITAL

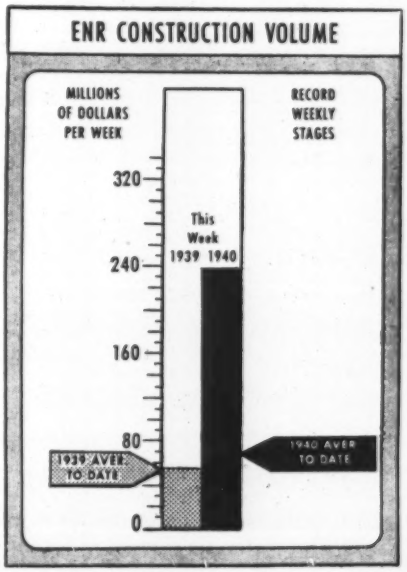
THE TREMENDOUS upswing in public and private work brings engineering construction for the week to the highest peak ever reported. The new record, $238,793,000, eclipses the previous high established March 20, 1930, by 31 per cent, and tops last week by 182 per cent. The combination of the highest weekly public volume ever recorded, and the highest volume of private awards since June 24, 1937, is responsible for the new all-time high mark. Government-owned manufacturing plants, shipways, cantonment and barrack construction swelled the public total 173 per cent above a week ago, and the increased volume of industrial building brought private work 208 per cent higher than last week.

The week's peak volume brings 1940 construction to $2,920,744,000, a gain of 19 per cent over the 42-week 1939 period. Private construction tops last year by 26 per cent, and public awards are up 17 per cent as a result of the 214 per cent gain in federal work.

Public building volume reached the highest peak ever reported as a result of the quickened tempo of defense spending. Industrial buildings top all weeks since June 24, 1937. Unclassified construction is at the second highest point of the year as almost $60,000,000 in shipbuilding facilities for the Navy Department went under contract.

New capital for construction purposes for the week totals $129,311,000. This compares with $6,247,000 reported for the corresponding week last year. The current week's total is made up of $90,489,000 in federal appropriations for defense construction, $33,095,000 in state and municipal bonds, and $5,727,000 in corporate security issues.

New construction financing for the year to date, $3,481,347,000, tops the volume reported for the 42-week 1939 period by 56 per cent.



CONTRACTS

(Thousands of dollars)

	Week Ending Oct. 19 1939	Oct. 10 1940	Oct. 17 1940
Federal	$16,099	$39,043	$148,426
State & Municipal	22,436	24,294	24,169
Total public	$38,535	$63,337	$172,595
Total private	17,693	21,460	66,198
TOTALS	$56,228	$84,797	$238,793

Cumulative
1940 .....(42 weeks)....$2,920,744
1939 .....(42 weeks)....$2,446,051

Note: Minimum size projects included are: Waterworks and waterways projects, $15,000; other public works, $25,000; industrial building, $40,000; other buildings, $150,000.

NEW PRODUCTIVE CAPITAL

	Cumulative 1939 42 Wks.	1940 42 Wks.
NON-FEDERAL	$1,101,695	$1,238,111
Corp. Securities	185,341	213,121
State & Mun.	439,665	424,853
R.E.A. loans	89,445	40,000
U.S.H.A. loans	201,647	180,465
R.F.C. loans	4,597	195,672
Fed. Aid-Hwy.	190,000	184,000
FEDERAL	$1,128,028	$2,243,236
TOTAL CAPITAL	$2,229,723	$3,481,347

FHA MORTGAGES

	Week Ending Oct. 14 1939	Oct. 5 1940	Oct. 12 1940
Selected for appraisal	$21,666	$26,568	$26,501*

Cumulative
1940 .....(41 weeks)....$1,038,790*
1939 .....(41 weeks).... $927,903
* Subject to revision.

ENR INDEX NUMBERS

Index Base = 100		1913	1926
Construction Cost	Oct., '40	245.02	117.78
Building Cost	Oct., '40	204.02	110.29
Volume	Sept., '40	324	142

H. E. Foreman named A.G.C. managing director

Herbert E. Foreman was last week named managing director of the Associated General Contractors of America to succeed the late Edward J. Harding. The post of assistant managing director, which Foreman has held since 1934, will be filled by James D. Marshall, manager of the heavy construction and railroad contracting division.

Commenting to an *ENR* representative on his new job, Foreman said that on the basis of his long association with Harding he expected to carry on unchanged the policies of his predecessor. He feels that among the most important problems now facing him are the formulation of contract procedures on defense construction which will protect both contractors and the government against future dispute, and the protection of normal construction (particularly the work of the smaller contractor), against disruption by the defense program. He is also impressed with the necessity for pushing highway construction in the interests of defense without disrupting present federal-state relationships.

Harris & Ewing photo

H. E. Foreman

Before his appointment as assistant managing director, Foreman served as field secretary and assistant engineer for the A.G.C. After his graduation from Ohio State University in 1919 with a degree in civil engineering, he taught a year at that university. He has held various engineering positions in connection with construction work in Illinois, Indiana, Ohio and Pennsylvania.

Marshall has been manager of the heavy construction and railroad contracting division since 1934. He was manager of the Associated General Contractors of Minnesota for 8 years before going to Washington.

JOBS OF THE WEEK

SHIPYARD, Chickasaw, Ala.

Navy Department awarded a $2,500,000 contract to the Gulf Shipbuilding Corp. for rehabilitation of ways, buildings, shops, and cranes.

SHIPWAYS, etc. Newport News, Va.

Navy Department, awarded a $14,000,000 contract for constructing shipways, pier, cranes, power and machine shop with equipment to the Newport News Shipbuilding & Dry Dock Co.

CANTONMENT, Camp Peay, Tullahoma, Tenn.

Hardaway Contracting Co. and Foster & Creighton Co., Columbus, Ga., will build under terms of a $8,637,600 contract negotiated on a cost-plus-fixed-fee basis cantonments at Camp Peay. Greeley & Hansen, Chicago, Ill., will act as architects and engineers for the work on a cost-plus-fixed-fee basis.

TENT CAMP, El Paso, Tex.

J. E. Morgan, El Paso, Tex., and H. B. Zachry, Laredo, Tex., got a $3,046,230 negotiated contract for Fort Bliss work.

SHIPYARD, Camden, N. J.

Navy Department awarded a $10,500,000 contract to New York Shipbuilding Corp., Camden, N. J., for constructing ways, cranes, tools and equipment for a turret ship wing. Sydney Jelinek, Philadelphia, is architect for the project.

TENT CAMP, San Luis Obispo, Calif.

L. E. Dixon Co., Los Angeles, Calif., was awarded a $3,880,341 contract for Camp Merriam work. The War Department negotiated the contract.

ALUMINUM PLANT, Sheffield, Ala.

Daniel Construction Co., Birmingham, Ala., received a contract for constructing an aluminum plant for Reynolds Metal Co., Richmond, Va. Estimated to cost $15,000,000, the plant will be located 2½ miles east of Wilson Dam.

HOUSING AND AMMUNITION FACILITIES

Virginia Engineering Co., Newport News, Va. and Wise Construction Co., Richmond, Va., were awarded a contract by the Bureau of Yards and Docks, Washington, D. C., for housing and ammunition facilities at Naval Mine and Fuel Depot at Yorktown and Newport News, Va. Estimated cost of the work is $4,024,260.

SHIPYARD IMPROVEMENTS

Navy Department awarded contracts to the Bethlehem Steel Co. to construct buildings, shipbuilding slips, wharves and supply cranes, and to operate the following plants: $10,013,000 Risdon-Union Plant, San Francisco, Calif.; $2,756,000 San Pedro Plant, Los Angeles, Calif.; $13,427,500 Fore River Plant, Quincy, Mass.; and $2,706,000 Staten Island Plant, Staten Island, N. Y. Bethlehem Steel also got a $23,607,700 contract for new ordnance facilities at unannounced locations.

HOUSES FOR NAVY PERSONNEL, San Diego, Calif.

William Simpson Construction Co., Los Angeles, was awarded the contract by Bureau Yards & Docks for the housing work at Destroyer Base and at Marine Corps Base. Estimated cost of the job is $3,000,000.

SHELL PLANT, Gadsden, Ala.

War Department awarded a $6,000,000 contract to Lansdowne Steel & Iron Co., Morton, Pa., for operating a shell forging and machining plant. The construction contract was tentatively awarded to Rust Engineering Co., Birmingham, Ala.

ORDNANCE PLANT, Camden, N. J.

Camden Forge Co., Camden, N. J., received a $2,873,695 contract from the Navy Department for constructing and operating plant and equipment.

ORDNANCE PLANTS

Navy Department awarded a contract to Carnegie Illinois Steel Corp. for constructing and operating buildings and furnaces for plants at South Charleston, W. Va. and Homestead, Pa. Carnegie Illinois will also furnish the machine tools for the plants. Work is estimated to cost $5,334,000.

SHIPYARD, Kearney, N. J.

Navy Department awarded a $5,500,000 contract to Federal Shipbuilding & Dry Dock Co. for constructing a warehouse, extending a wet basin and shipways, etc.

NYLON PLANT, Martinsville, Va.

E. I. duPont de Nemours & Co., Wilmington, Del., will build with its own forces a $11,000,000 nylon plant on 487-acre tract 2 mi. south of Martinsville.

NOTE—Additional bidding and contract news on over 800 projects, large and small, appears in the Construction News Section beginning on page 14.

CONTRACT UNIT PRICES

What contractors are bidding on different kinds of construction work

RIVER DIKES, MISSOURI

OWNER: U. S. Engineer Office, St. Louis, Mo.

PROJECT: Construction of approximately 1,200 linear feet of piling clump and crib dikes located on the Mississippi River at Neelys Landing, miles 65 to 75 above mouth of Ohio River.

CONDITIONS: Contractor must not obstruct navigation in the course of work, furnish all materials and complete work in 60 days. Rail and water transportation facilities available. Wage rates are: skilled, $1.00 to $1.10 per hr.; semi-skilled, 65c.; and common, 55c. per hr.

BIDS: Five bids were received August 6, 1940, ranging from the contract low of $31,912 to $41,175. Engineer's estimate, $38,480.

LIST OF BIDDERS:

1. Patton Tully Transportation Co., Memphis, Tenn. (contract) $31,912
2. Massman-Peterman Co., St. Louis, Mo. 32,854
3. W. P. McGeorge, Pine Bluff, Ark. 34,561
4. Woods Bros. Constr. Co., Lincoln, Nebr. 35,108
5. Kansas City Bridge Co., Kansas City, Mo. 41,175

Item	Quan.	Unit Prices (1)	(2)	(3)
1. Lumber, mattress	134 M bm.	$57.00	$60.00	$56.00
2. Stone, mattress and dike	2,800 c. y.	2.60	2.60	2.90
3. Stone, paving, cast	30 c. y.	3.50	3.20	5.00
4. Crushed stone	15 c. y.	3.50	3.20	5.00
5. Piling, round timber	2,000 l. f.	.50	.45	.60
6. Timbers, crib	45,400 l. f.	.34	.35	.38
7. Anchorage, bank (deadman)	4 ea.	25.00	100.00	15.00
8. Cable, anchorage (1-in.)	2,000 l. f.	.15	.10	.10

STREET PAVING TYLER, MINNESOTA

OWNER: Village of Tyler, Minn.; E. T. McEvoy, village clerk; Claude Zehetner, Ivanhoe, Minn., engineer.

PROJECT: Concrete paving Tyler and Applebee Streets, Tyler, Minn. Approximately 11,171 sq.yd. of one course concrete paving.

CONDITIONS: Contractor to furnish all materials and complete work by mid-September. Rail and highway transportation facilities available. Wage rates specified are: skilled labor, $1.00 per hr.; semi-skilled, 70c.; and common labor, 40c. per hr.

BIDS: Six bids were received July 12, 1940, ranging from the contract low of $27,388 to $30,831.

LIST OF BIDDERS:

1. Fielding & Shepley, St. Paul, Minn. (contract) $27,388
2. W. A. Patterson Co., St. Paul, Minn. 28,171
3. W. W. Magee Co., St. Paul, Minn. 28,598
4. T. Bergh, Minneapolis, Minn. 29,175
5. Woodrich Constr. Co., Minneapolis, Minn. 29,372
6. Northern Improvement Co., Fargo, N. Dak. 30,831

Item	Quan.	Unit Prices (1)	(2)	(3)
1. Remove bituminous material	12,649 s. y.	$0.04	$0.025	$0.10
2. Remove concrete curb	110 l. f.	.20	.15	.20
3. Remove cross-walks	125 s. y.	.20	.25	.50
4. Prepare subgrade (fine)	1,446 c. y.	.60	.45	.90
5. One course concrete pavement	11,171 s. y.	2.11	2.18	2.08
6. Foundation headers	8 ea.	8.00	40.00	10.00
7. Temporary crossing	3 ea.	25.00	50.00	35.00
8. Trench excavation	604 l. f.	.60	.60	.40
9. Furn. and inst. 10-in. pipe	604 l. f.	.65	.60	.50
10. Excavation for manholes	175 c. y.	.60	.90	.50
11. Constructing manholes	13 c. y.	18.00	18.00	30.00
12. Constructing catchbasins	23 c. y.	18.00	20.00	30.00
13. Furn. and inst. casting assemblies	22 ea.	25.00	27.50	28.00
14. Adjust frame castings	18 ea.	5.00	3.00	5.00
15. Concrete curb, type E-6	110 l. f.	1.00	.90	1.00

CHANNEL IMPROVEMENT PENNSYLVANIA

OWNER: U. S. Engineer Office, Baltimore, Md.; Lt. Col. H. L. Robb, executive assistant, Corps of Engineers.

PROJECT: Widening, deepening and realigning channel of Codorus Creek in vicinity of York, Pa., for flood control. Approximate length 22,969 ft. Work involved includes over 1,000,000 c.y. of common and rock channel excavation, and approximately 40,000 c.y. of common and rock structure excavation; backfill and levee fill; furnishing and placing steel sheet piling and riprap; and all cast and corrugated iron pipe required for completion.

CONDITIONS: Contractor to furnish all materials except 28,000 lb. of cast iron pipe which is to be furnished by the government. Project to be completed in 700 working days. Rail and highway transportation facilities available. Wage rates specified are: skilled labor, 90c. to $1.25 per hr.; semi-skilled, 60 to 90c.; and unskilled, 50c. per hr.

BIDS: Eight bids were opened July 9, 1940, ranging from the contract low of $1,631,373 to $2,390,860. Engineer's estimate $1,718,490. Awarded July 29, 1940.

LIST OF BIDDERS:

1. Benjamin Foster Co., Philadelphia, Pa. (contract) $1,631,373
2. S. J. Groves & Sons Co., Ridgefield, N. J. 1,640,753
3. Geo. M. Brewster & Son, Inc., Bogota, N. J. 1,725,666
4. E. J. Albrecht Co., Chicago, Ill. 1,788,223
5. Al. Johnson Constr. Co., Minneapolis, Minn. 1,894,918
6. Dravo Corporation, Pittsburgh, Pa. 1,973,215
7. Kaufman Construction Co., Philadelphia, Pa. 2,301,685
8. The Arundel Corp., Baltimore, Md. 2,390,860

Item	Quan.	Unit Prices (1)	(2)	(3)
1. Remove exist. struct.; clear site	L.S.	$4,000.00	$25,000.00	$26,000.00
2. Stripping	25,000 c. y.	.42	.60	.50
3. Channel excavation, common	990,000 c. y.	.62	.60	.35
4. Channel excavation, rock	134,000 c. y.	1.95	2.00	4.50
5. Structure excavation, common	38,000 c. y.	1.50	2.20	2.30
6. Structure excavation, rock	2,000 c. y.	5.00	8.00	15.00
7. Line drilling and broaching	7,000 s. f.	1.25	2.30	.75
8. Backfill	23,000 c. y.	.60	.55	.70
9. Levee fill	245,000 c. y.	.35	.09	.08
10. Seeding	41 ac.	80.00	525.00	130.00
11. Crushed stone surfacing	300 c. y.	4.00	4.00	5.00
12. Steel sheet piling	2,400 s. f.	1.50	3.00	2.30
13. Dumped riprap	47,000 c. y.	.72	.50	.50
14. Hand placed riprap	43,000 c. y.	4.32	4.00	5.00
15. Cr. stone backing and filters	21,000 c. y.	3.00	2.25	2.75
16. Rubble masonry	1,300 c. y.	15.00	15.30	10.00
17. Concrete	10,000 c. y.	16.40	19.60	15.00
18. Reinforcing steel	780,000 lb.	.04	.047	.05
19. Miscellaneous iron and steel	2,800 lb.	.20	.15	.20
20. Pipe handrailing	4,800 lb.	.25	.20	.25
21. Guard rail	600 l. f.	1.25	1.10	2.50
22. Lay cast iron pipe (furn. by gov't.)	28,000 lb.	.05	.05	.02
23. Cast iron pipe and fittings	166,000 lb.	.10	.10	.10
24. Care for and relay c. i. pipe and fittings	155,000 lb.	.08	.06	.08
25. 4-in. fibre conduit	4,000 l. f.	.50	.25	.25
26. Screen house superstructure	L.S.	1,600.00	1,200.00	1,000.00
27. Raising existing manholes	5 ea.	125.00	50.00	70.00
28. Automatic flood gates	L.S.	17,000.00	18,500.00	23,000.00
29. 6-in. spigot and flap valves	23 ea.	17.00	15.00	20.00
30. 36-in. self-contained sluice gate	1 ea.	500.00	700.00	500.00
31. 12-in. corr. iron pipe	100 l. f.	1.75	3.00	1.70
32. 18-in. corr. iron pipe	410 l. f.	3.00	4.25	3.00
33. 24-in. corr. iron pipe	250 l. f.	5.00	7.00	5.25
34. 30-in. corr. iron pipe	340 l. f.	7.00	9.50	6.80
35. 36-in. corr. iron pipe	270 l. f.	12.00	12.00	10.65
36. 84-in. corr. iron pipe	64 l. f.	28.00	30.00	26.35

CONSTRUCTION REPORTS

Compiled by Business News Department—Engineering News-Record, 330 W. 42nd St., New York
ELSIE EAVES, Manager *SCOTT McLEOD, Statistician*
(Daily service also available—Write for details)

Location of ENR Correspondents

Symbols and Abbreviations Include:

† Federal Government
★ Project of $500,000 or over
ENR Engineering News-Record
CD Engineering News-Record Construction Daily

Projects—By Size

Construction projects here reported cover the United States and Canada, are of these minimum sizes or larger; water supply, earthwork, waterworks, $15,000; other public works, $25,000; industrial buildings, $40,000; other buildings, $150,000.

Classes of Construction

(Named in order of Listing)

Water Supply	Unclassified
Sewers, Waste Disposal	Latin America
Bridges, Grade Cross'gs	Public Buildings
Streets & Roads	Commercial Buildings
Earthwork, Waterways	Industrial Buildings

Stages Reported

PROPOSED: (except Streets & Roads): BIDS ASKED (new announcements only. For full calendar, see also preceding issues of ENR); LOW BIDDERS: All low bidder news will be the final reports published on the projects involved except where award is not made to the low bidder. In this case, a supplementary contract award report will be published.

CONTRACTS AWARDED: Except awards to low bidders previously reported in low bidder stage.

Dates shown are of issue in which last previous report was published.

WATER SUPPLY

PROPOSED WORK

Ark., Waldron—W. S. Mitchell, mayor, new water supply, earthen dam across Square Rock Creek to form lake. $100,000. L. V. Bryant, Waldron, engr. CD 6/6—ENR 6/13.

★**Calif., Napa**—State, surveys water supply sys. for 4 state institutions, Napa Valley, proposed dam at either Conn Valley or Rector Canyon. $1,000,000-$2,000,000. T. Hyatt, P. Wks. Bldg., Sacramento, state engr. CD 5/24—ENR 5/30.

★**Calif., San Diego**—$3,000,000 bond election Nov. 5, San Vincente Dam, about 25 mi. northeast of here; $1,300,000 bond election, watermains.

Conn., Hartford—Metropolitan Dist. Water Bureau, Bd. Contr. & Supply, 550 Main St., rejected bids Sept. 30, Contr. 56, constructing Hubbard Brook Weir in Hartland. C. Saville, 1026 Main St., ch. engr. Water Bureau. CD 9/18—ENR 9/26.

Fla., Delray Beach—Water supply and chlorinating sys. Over $15,000.

Kan., Bogue—WW sys. $30,000. Paulette & Wilson, 1006 Kansas Ave., Topeka, engrs.

Nebraska—Layne-Western Co., 1010 W. 39 St., Kansas City, Mo., and World Herald Bldg., Omaha, at City Hall, Falls City, soon lets contract water pipe line from Rulo to Falls City. Extended date. CD 10/3—ENR 10/10.

N. Y., Watkins Glen—Bids in spring, filtration plant at WW. $90,000. Wm. T. Field Engineers, Inc., Flower Bldg., Watertown, engrs.

Pa., Cuddy—Bd. Comrs. South Fayette Twp., J. Barrett, secy., Cuddy, preliminary plans 16.63 mi. 5 in. cement lined centrifugally c.i. pipe throughout, South Fayette Twp. $150,000. Progress depending on bond election Nov. 5. Municipal Eng. Co., 2020 W. Liberty Ave., Pittsburgh, engrs.

Pa., Groveton—Bd. Comrs. Robinson Twp., L. White, pres., Groveton, preliminary plans 14 mi. 6- to 10-in. cement lined centrifugally c.i. pipe, etc., Robinson Twp. $180,000. Progress pending on bond election Nov. 5. Municipal Eng. Co., 2020 W. Liberty Ave., Pittsburgh, engrs.

Pa., Mocanaqua—Mocanaqua Water Co., 50,000 gal. or more capacity steel standpipe or storage reservoir, booster pump, sta., etc. Over $15,000.

Pa., Reading—Repairing, imprv. 5 clear water basins at Berkley pump, sta., municipal water supply sys., $30,000; purchasing, installing 200 new hydrants, $17,000; reconditioning valves, watermains, $10,000. F. A. Heine, City Hall, ch. engr. Water Bureau.

Pa., Sayre—Boro Council, H. Murrelle, pres., purchasing assets Sayre Water Co. and plans imprvs., extens. to same. Over $15,000.

Pa., Sellersville—Boro Council, 12-in. c.i. water supply main from 20 m.g.c. reservoir to smaller basin outside boro limits, to replace present 6-in. main. $50,000. Boro Eng. Dpt., c/o owner, engr.

Tex., Mercedes—Remodeling exten. present WW sys. $65,000. Garrett Eng. Co., 918 Richmond St., Houston. CD 6/4—ENR 6/6.

Wash., Vancouver—Election Nov. 9, $48,000 revenue bond issue, water sys., Minnehaha Dist. $85,947. J. L. Henderson, City Hall, engr.

Wis., Webster—P. Bertilson, city clk., WW sys. $90,000. Applied to WPA. General Eng. Co., Portage, engr.

Que., Huntingdon—A Plamondon, engr., 369 Mont Royal Ave. W., Montreal, bids soon enlarging present filter plant for Town. $17,000. CD 9/20—ENR 9/26.

Que., Princeville—A. Pepin, Princeville, imprv. water sys. $15,000.

Que., St. Benoit Joseph Labre—Reservoir and filtration plant.

Que., St. Felician—Imprv. WW sys. $15,000. J. Dufresne, Town Hall, engr.

BIDS ASKED

Bids Asked October 22

O., Chillicothe—J. E. Clark, dir. Pub. Serv., WW imprvs., Contr. B, pump, station, appurtenances. $125,000. H. J. Jones & Co., 2nd Natl. Bank Bldg., Toledo, engrs. CD 11/17—ENR 11/3.

Bids Asked October 23

Ia., Lake Mills—Iowa State Conservation Comn., M. L. Hutton, dir. Des Moines, water control structures at Rice Lake.

Bids Asked October 26

O., Chillicothe—Water softening plant. $106,000. CD 9/5—ENR 9/12.

Bids Asked November 6

Tex., Wichita Falls—W. E. Fitzgerald, mayor, 9 m.g.p.d. capacity filtration plant, settling basins, well, piping, etc. $250,000. J. E. Ward, Harvey-Snider Bldg., engr. CD 9/25—ENR 10/3.

Bids Asked After February 15

N. Y., Pittsford—East Pittsford Water Dist., Pittsford, installing 2 to 3 mi. new c.i. watermains. $23,000. Wm. S. Lozier, Inc., 10 Gibbs St., Rochester, engrs.

LOW BIDDERS

Ia., Comanche—F. A. Cady, city clk., Oct. 1, WW sys., from D. Christensen, 509½ 3 Ave. S.E., Cedar Rapids. **$26,106.** CD 9/4—ENR 9/12.

Mass., Bernardston—Water Dpt., Town Hall, Oct. 1, WW imprvs. from F. C. Ferguson, East Jaffrey, N. H. Approx. **$40,000.** CD 9/30.

Mass., Boston—At office Metropolitan Dist. Water Supply Comn., R. N. Molt, secy., 20 Somerset St., Boston, Oct. 3, Contr. 111, outlet works superstructure at Winsor Dam, Belchertown, from Chandler Constr. Co., 45 Newbury St. **$47,798. PWA.** CD 9/11—ENR 9/19.

N. Y., Prospect—Utica Freight & Terminal, Inc., 1208 Lansing St., Utica, structural steel support for water pipes across Trenton Chasm, from Pittsburgh-Des Moines Steel Co., Neville Island, Pittsburgh, Pa. Est. **$20,000.**

Pa., Lititz—Boro, WW and pump. sta., from J. Stapf, 2340 Susquehanna St., Harrisburg. Est. **$15,000.** CD 9/24—ENR 9/26.

Tex., Channelview—Harris Co. Fresh Water Dist. 6, Sept. 23, water sys., c.i. mains, water well, from Gerald Mora, 315 Sabine St., Houston. **$33,260.** CD 9/18.

Wash., Seattle—King Co. Water Dist. 7, Oct. 3, furnishing 1,600 ft. 51½ ft. in. steel pipe for Cedar River Pipeline 2, from Puget Sound Mchy. Depot, 322 1 Ave. S. **$17,895.**

CONTRACTS AWARDED

Ga., Dalton—O. R. Hardin, mayor, watermain exten. **WPA. $30,000.**

Ill., Mt. Auburn—J. Walters, town clk., water sys. **WPA. $59,500.** $8,000 bond issue approved.

Ill., Peoria Heights—Wells for WW, to Layne-Western Pump Co., 53 W. Jackson St., Chicago. **$22,000.**

†**Mich., Battle Creek**—Con. Q.M., Fort Custer, one 250,000 gallon steel water tank, to Chicago Bridge & Iron Co., 1313 Lafayette Bldg., Detroit. **$26,970.** Bids 10/9, awarded 10/9.

N. H., Hill—Town, Bd. Selectmen, distr. lines, to I. Capaldi, 278 Silver Spring St., Providence, R. I. **$33,593.** Bids 10/2. CD 9/19—ENR 8/1.

N. J., Pequannock—Watermains in Old Route 23 and Sherman Ave. **WPA. $36,637.** J. F. Sheehan, foot of 5 Ave., Paterson, WPA and owner's engr.

N. Y., Farmingdale—State Dpt. Agriculture, State Bldg., Albany, steam and water pipes at Institute Applied Agriculture. **WPA. $36,000.** C. L. Post, Old P. O. Bldg., Albany, ch. engr. WPA projects.

N. Y., Ilion—Remington Arms Co., Ilion, underground water storage tank. Owner builds. Over **$15,000.**

Tex., Austin—Travis Co. Water Contr. Dist. 2, Joinerville, water sys. throughout district in Fiskville. **WPA. $304,713.**

Tex., Mount Pleasant—B. Patrick, mayor, imprv., expansion WW sys., mains, etc. **WPA. $52,000.** T. A. Grissom, Mount Pleasant, engr. CD 8/19—ENR 8/22.

B. C. Summerland—Dam for water purposes, to A. H. Green Co., Ltd., Nelson. **$40,000.**

Ont., Port Albert—Dpt. Munitions & Supply, Ottawa, water and sewerage sys. in connection with airport to Armstrong Bros., Brampton. **$81,000.** Awarded 10/8.

Ont., St. Eugene—Dominion Government, Ottawa, WW sys., to Bertrand & Brother, L'Orignal. **$29,000.** Dpt. Munitions & Supply, Ottawa, engr.

Ont., Sudbury—Municipality, c/o H. J. McKeown, clk., watermains in 3 streets, day labor. **$21,000.** Gore & Storrie, 1130 Bay St., Toronto, engrs.

Que., Brownsburg—Water and sewer sys., to Legace Quarry Ltee., L'Abord a Plouffe. **$135,878.** Gohier & Dorais, 10 St. James St. E., Montreal, engrs.

Que., Cadillac—Province of Quebec, Dpt. Mines & Fisheries, Quebec City, water sys., Cadillac Twp., to R. Bourgeois, Cadillac Est. **$50,000.** A. O. Dufrene, c/o Bureau of Mines, Quebec City, archt. C. C. Lindsay, 159 Craing St. W., Montreal, engr.

Que., Cap de la Madeleine—Dominion Govt., Ottawa, Ont., water sys., to Laviolette Constr. Co., Ltd., Three Rivers. **$35,000.** Dpt. Munitions & Supply, Ottawa, Ont., engr.

SEWERS, WASTE DISPOSAL

PROPOSED WORK

Calif., Los Angeles—Sanitary sewers Centinella and Mitchell Aves. Sewer Dist. $59,296. L. Aldrich, City Hall, engr.

Calif, San Mateo—Completing specifications, rein.-con. underground pump chamber, installing 32 sewage pumps and 1 sump in Arroyo Court.

Conn., New Canaan—Town, C. M. Cruikshank, Town Hall, sanitary sewers. $50,000. T. F. Bowe, 110 William St., New York, N. Y., engr.

Fla., Jacksonville—W. Crabtree, Barnett Bldg., sewers, streets, walks, etc., 55 acre tract from St. Johns Ave. and Hershel St. to Park St. $75,000.

Ia., Council Bluffs—N. Hansen, city clk., storm sewers various localities, $150,000. Will apply to WPA. J. Boyne, city engr.

Mass., Worcester—Supt. Sewers, 20 E. Worcester St., sanitary sewers, Clearview and Winifred Aves., Harrington Way, Saxon, Wrentham and Monmouth Rds. $30,000.

†**N. J., Dover**—Quartermaster General, Wash., D. C., sewage disposal plant, sewer lines at Picatinny Arsenal. $85,000. WPA. J. F. Sheehan, foot of 5 Ave., Paterson, WPA and owner's engr.

N. J., Hasbrouck Heights—Sanitary and trunk sewer from Kipp Ave. to Route 3. $80,650. WPA. J. F. Sheehan, foot of 5 Ave., Paterson, WPA and owners engr.

N. J., Montclair—Vitr. tile sanitary outlet sewer, excavating, grading. $71,926. WPA. J. B. Hayden, Town Hall, engr.

★**N. Y., Syracuse**—Onondaga County P. Wks. Comn., Court House, Syracuse, lateral sewers in Salina. $1,000,000.

★**Pa., Indiantown Gap**—Dpt. Military Affairs, Adjutant General's Office, Harris-